STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
State Revolving Fund Loan Program
L & C Tower, 8th Floor
401 Church Street
Nashville, TN 37243

FINDING OF NO SIGNIFICANT IMPACT
Approval of Facilities Plan
Hallsdale-Powell Utility District (Union and Knox Counties), Tennessee
Loan No. CGA 2009-233

July 15, 2009

The National Environmental Policy Act requires federally designated agencies to determine whether a proposed major agency action will significantly affect the environment. One such major action, defined by Section 511(c)(1) of the Clean Water Act, is the approval of a facilities plan prepared pursuant to Title VI of the Clean Water Act. In making this determination, the State Revolving Fund (SRF) Loan Program assumes that all facilities and actions recommended by the plan will be implemented. The state's analysis concludes that implementing the plan will not significantly affect the environment; accordingly, the SRF Loan Program is issuing this Finding of No Significant Impact (FNSI) for public review.

The Hallsdale-Powell Utility District (HPUD) has completed 4 facilities planning documents entitled "Brickey McCloud Elementary School Outdoor Classroom & Stormwater Mitigation Area, May 2009," "Willow Fork Interceptor Replacement, April 2009," "North Fork Interceptor Replacements, May 2009," and "Sanitary Sewer Rehabilitation Phase 2, April 2009". These facilities planning documents provide recommendations for improvements to the wastewater treatment system serving the HPUD.

The Brickey McCloud Elementary School Outdoor Classroom & Stormwater Mitigation Area project consists of the engineering design and permitting of an outdoor classroom area and construction documents for stormwater mitigation of the Brickey Elementary School. Site master plan elements will include a stormwater mitigation area, meadows, walking trails, boardwalks, footbridges and overlooks, raised garden beds, an amphitheater and a pavilion.

The Willow Fork Interceptor Replacement project consists of the replacement of approximately 4,500 linear feet (LF) of existing 10-inch through 16-inch diameter sanitary sewer interceptor along Willow Fork Creek to restore and improve system capacity and alleviate chronic sanitary sewer overflows. This project will utilize traditional open-cut replacement and will generally follow the existing pipeline. Additional work will be performed to repairs the existing creek banks to improve water quality and restore aquatic habitat using vegetative stabilization methods because of the proximity of the interceptor to Willow Fork.

The North Fork Interceptor Replacements project consists of the replacement or rehabilitation of approximately 6,000 LF of existing 10-inch through 20-inch diameter sanitary sewer interceptor along North Fork Creek to restore and improve system capacity and alleviate chronic sanitary sewer overflows. This project will utilize traditional open-cut replacement and trenchless rehabilitation. Additional work will be performed to repairs the existing creek banks to improve

water quality and restore aquatic habitat using vegetative stabilization methods because of the proximity of the interceptor to North Fork Creek.

The Sanitary Sewer Rehabilitation Phase 2 project consists of the rehabilitation of multiple pipelines, manholes, and the public-owned portions of service laterals throughout high-priority areas in the HPUD to reduce and eliminate sources of infiltration and inflow (I/I) and sanitary sewer overflows. This project will utilize trenchless rehabilitation and open-cut point repairs to approximately 200,000 LF in 250 sewer lines and rehabilitate approximately 300 manholes.

The total estimated project cost is $12,150,000. A combination of American Recovery and Reinvestment Act of Act of 2009 (ARRA 2009) funds and a Clean Water State Revolving Fund (CWSRF) loan in the amount of $12,150,000 has been requested for this project. This project will be funded with a $7,290,000 loan and $4,860,000 in principal forgiveness that will not have to be repaid by the HPUD.

Attached is an Environmental Assessment containing detailed information supporting this proposed action. Comments supporting or disagreeing with this proposed action received within 30 days of the date of this FNSI will be evaluated before we make a final decision to proceed.

If you wish to comment or to challenge this FNSI, send your written comment(s) to:

Mr. Sam R. Gaddipati, Environmental Manager
State Revolving Fund Loan Program
L&C Tower, 8th Floor
401 Church Street
Nashville, TN 37243

or contact him by telephone at (615) 532-0445 or by e-mail at sam.gaddipati@tn.gov.

ENVIRONMENTAL ASSESSMENT
Hallsdale-Powell Utility District (Knox and Union Counties), Tennessee
Loan No. CGA 2009-233

July 15, 2009

A. PROPOSED FACILITIES AND ACTIONS; FUNDING STATUS

The Hallsdale-Powell Utility District (HPUD) has completed 4 facilities planning documents entitled "Brickey McCloud Elementary School Outdoor Classroom & Stormwater Mitigation Area, May 2009," "Willow Fork Interceptor Replacement, April 2009," "North Fork Interceptor Replacements, May 2009," and "Sanitary Sewer Rehabilitation Phase 2, April 2009." These facilities planning documents provide recommendations for improvements to the wastewater treatment system serving the HPUD.

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The North Fork Interceptor Replacements project consists of the replacement or rehabilitation of approximately 6,000 LF of existing 10-inch through 20-inch diameter sanitary sewer interceptor along North Fork Creek to restore and improve system capacity and alleviate chronic sanitary sewer overflows. This project will utilize traditional open-cut replacement and trenchless rehabilitation. Additional work will be performed to repairs the existing creek banks to improve water quality and restore aquatic habitat using vegetative stabilization methods because of the proximity of the interceptor to North Fork Creek.

The Sanitary Sewer Rehabilitation Phase 2 project consists of the rehabilitation of multiple pipelines, manholes, and the public-owned portions of service laterals throughout high-priority areas in the HPUD to reduce and eliminate sources of infiltration and inflow (I/I) and sanitary sewer overflows. This project will utilize trenchless rehabilitation and open-cut point repairs to approximately 200,000 LF in 250 sewer lines and rehabilitate approximately 300 manholes.

The HPUD's Service Area is indicated in Figure 1 and the Brickey McCloud Elementary School Outdoor Classroom & Stormwater Mitigation Area, Willow Fork Interceptor Replacement, North Fork Interceptor Replacements, and the Sanitary Sewer Rehabilitation Phase 2 project locations are indicated on Figures 2, 3, 4, and 5, respectively, of this Environmental Assessment.

FUNDING STATUS

The facilities described above comprise the scope of Loan No. CGA 2009-233 scheduled for funding in fiscal year 2010. The estimated project costs are summarized in the following tabulation:

PROJECT CLASSIFICATIONS	COSTS ($)
Design Fees	526,636
Construction	11,623,364
TOTAL	**12,150,000**
Loan	7,290,000
Amount Designated for Principal Forgiveness (Will not have to be repaid)	4,860,000

The HPUD has applied for $12,150,000 in a combination of American Recovery and Reinvestment Act of 2009 (ARRA 2009) funds and a Clean Water State Revolving Fund (CWSRF) loan. This project will be funded with a $7,290,000 loan and $4,860,000 in principal forgiveness that will not have to be repaid by the HPUD.

B. EXISTING ENVIRONMENT

The HPUD's Service Area is located in Knox and Union Counties in east Tennessee. A discussion of existing environmental features in the project areas includes the following:

SURFACE WATERS

Surface waters in the project areas include Beaver Creek, Willow Fork Creek, North Fork Creek, Allen Branch, Mill Branch, Hines Branch, and their unnamed tributaries. Designated uses for Beaver Creek include domestic water supply, industrial water supply, fish and aquatic life, recreation, livestock watering and wildlife, and irrigation.

The HPUD currently provides drinking water to its customers from two water treatment facilities, the Melton Hill Water Treatment Plant (WTP) and the Norris Lake WTP. The Melton Hill WTP operates at 6.0 million gallons per day (MGD) and withdraws raw water from Mile 3.9 of Bull Run Creek. The Norris Lake WTP operates at 4.0 MGD, withdraws raw water from the Clinch River (Norris Lake) at River Mile 115.4, and is located near the Sharps Chapel area in Union County.

The HPUD currently owns and operates 3 wastewater treatment plants (WWTPs). The Beaver Creek WWTP, located west of Clinton Highway (U.S. Highway 25W) on Beaver Creek Drive, is currently being upgraded and expanded from a design capacity of 5.4 to 9.7 million gallons per day (MGD). The treated effluent from the Beaver Creek WWTP is discharged at mile 23.5 of Beaver Creek. The Raccoon Valley (also referred to as the Diggs Gap) WWTP, located north of Copper Ridge and to the west of Interstate 75 on Diggs Gap Road, has a design capacity of 0.50 MGD. The treated effluent from the Raccoon Valley WWTP is discharged at mile 12.6 of Bull Run Creek.

The Tennessee Department of Environment and Conservation (TDEC) in the Final Version, Year 2008 303(d) List dated June 2008, has assessed Beaver Creek in Knox County as impaired resulting from a major municipal point source, pasture grazing, and discharges from municipal separate storm sewer systems. The construction of the Brickey McCloud Elementary School Outdoor Classroom & Stormwater Mitigation Area, Willow Fork Interceptor Replacement, North

Fork Interceptor Replacements, and Sanitary Sewer Rehabilitation Phase 2 projects will not affect Beaver Creek.

GROUNDWATER

The occurrence of groundwater in Knox County is controlled by fractures in the underlying rocks. The rocks themselves have little porosity. Additional porosity has developed where fractures have occurred because of the faulting and folding of the rocks. In calcareous and carbonate rocks, percolating groundwater frequently enlarges fractures to a depth of approximately 300 feet. Below this depth the fractures are small and have frequently been sealed with secondary calcite. Inventoried wells typically reveal groundwater of good quality with yields ranging from 25 gallons per minute (gpm) to a maximum of 500 gpm. Large springs yielding up to several thousand gpm are common in Knox County. Most of these springs are in areas underlain by limestone and dolomite.

The HPUD owns and operates the Sunset Bay Wastewater System in the Sunset Bay area Union County. The Sunset Wastewater Treatment System is a treatment and drip irrigation system with a design capacity of 0.165 MGD.

SOILS

Soils in the HPUD's Service Area in northern Knox County are from the Fullerton-Dewey and the Wallen-Talbott-Montevallo Soil Associations. The Fullerton-Dewey Soil Association is found on hilly and rolling slopes and consists of deep, well-drained cherty and clayey soils from dolomitic limestone. The Wallen-Talbott-Montevallo Soil Association is found on steep ridges and rolling valleys and consists of shallow to moderately deep, excessively drained and well-drained stoney and clayey soils from sandstone, shale, and limestone.

TOPOGRAPHY

The project areas are in the Valley and Ridge Physiographic Province in east Tennessee. The topography consists of a succession of southwest/northeast alternating ridges and valleys of various widths. The valleys vary between 900 to 1,000 feet above mean sea level (MSL). Beaver Ridge and Copper Ridge have peaks that range from 1,200 to 1,300 feet above MSL.

OTHER ENVIRONMENTAL FEATURES

No wild or scenic rivers or unique agricultural, scientific, cultural, ecological, or natural areas were identified in the HPUD's proposed project areas.

C. EXISTING WASTEWATER FACILITIES

The HPUD owns and operates all 3 wastewater treatment plants in the HPUD Service Area providing the majority of its services to northern Knox County and also a wastewater system in Union County. The service area covers about 90 square miles of mostly low-density residential, commercial, and rural development. The burgeoning population experienced in the service area during recent years has primarily resulted from the increasing demand for residential neighborhoods for people working throughout the greater Knoxville metropolitan area. The

current wastewater system consists of approximately 405 miles of sewers consisting of 6-inch to 36-inch diameter lines, 17 pumping stations, and 3 wastewater treatment facilities.

The Sunset Wastewater Treatment Facility is a treatment and drip irrigation system located in the Sunset Bay area of Union County. The system was completed in 2002 and has a treatment capacity of 0.165 MGD. Individual residences are equipped with Advantex Treatment Units for biological treatment. The treated effluent is pumped through a low-pressure sewer system to holding tanks at the Sunset Treatment Area. The treated effluent is then pumped through a network of subsurface lines to drip fields where it is released below the surface. The Sunset Wastewater Treatment Facility is permitted to operate by TDEC under State Permit No. SOP-02022 with the following parameters:

PARAMETER	EFFLUENT LIMITATIONS
BOD_5	45 milligrams per liter (mg/l), daily maximum
Nitrite as N	20 mg/l, daily maximum
Ammonia as N	Report

The Raccoon Valley WWTP has a treatment capacity of 0.50 MGD and is located north of Copper Ridge and to the west of Interstate 75 on Diggs Gap Road. The plant, built approximately 35 years ago, is an activated sludge plant with two aeration basins and a clarifier. Preliminary screening is currently accomplished with the use of a temporary bar screen. Disinfection is performed by chlorination. The sludge from the plant is currently hauled by tanker-truck approximately four miles to the Beaver Creek WWTP. The Raccoon Valley WWTP is currently authorized to discharge treated effluent at mile 12.6 of Bull Run Creek and is in compliance with the following National Discharge Elimination System (NPDES) Permit No. TN0059323:

PARAMETER	EFFLUENT LIMITATIONS
$CBOD_5$	10 mg/l
Ammonia as N (May 1-October 31)	2 mg/l
Ammonia as N (November 1-April 30)	5 mg/l
Suspended Solids	30 mg/l
E. coli	126 colonies per 100 ml
Chlorine Residual	0.23 mg/l instantaneous daily maximum
Settleable Solids	1.0 ml/l daily maximum
Dissolved Oxygen	5.0 mg/l instantaneous daily minimum
pH	6.0 – 9.0 Standard Units

The Beaver Creek WWTP currently has a treatment capacity of 5.4 MGD and is located west of Clinton Highway (U.S. Highway 25W) on Beaver Creek Drive. The plant, built approximately 35 years ago, is an activated sludge plant consisting of an influent pump station, headworks (screening and grit removal), an oxidation ditch, clarifiers, and chlorination and dechlorination. The HPUD currently disposes solids from the Beaver Creek and Raccoon Valley WWTPs to the Chestnut Ridge Landfill.

The Beaver Creek WWTP is currently authorized to discharge treated effluent at mile 23.5 of Beaver Creek and operates under the NPDES Permit No. TN0024287 with the following parameters:

PARAMETER	EFFLUENT LIMITATIONS
$CBOD_5$ (May 1-October 31)	10 mg/l
$CBOD_5$ (November 1-April 30)	15 mg/l
Ammonia as N (May 1-October 31)	1.5 mg/l
Ammonia as N (Nov. 1-April 30)	3.0 mg/l
Suspended Solids	30 mg/l
Fecal Coliform	200 colonies per 100 ml
E. coli	126 colonies per 100 ml
Chlorine Residual	0.024 mg/l instantaneous daily maximum
Settleable Solids	1.0 ml/l daily maximum
Dissolved Oxygen	6.0 mg/l instantaneous daily minimum
pH	6.5 – 9.0 Standard Units

The Beaver Creek WWTP is currently being expanded and upgraded from 5.6 to 9.7 million gallons per day with construction scheduled for completion in March 2010. This project includes a new membrane treatment system and biological reactors to accompany the existing oxidation ditch biological treatment process, new influent pump station, new influent pump station electrical building, new headworks, new sodium hydroxide storage tank, new process drain and utility water pump stations, new standby generators, modifications and additions to the chlorinator building, a new sodium bisulfate storage tank, improvements to the existing operations building, and associated on-site road improvements and landscaping.

A Consent Order was issued by the TDEC on August 20, 2004, directing the HPUD to develop and follow conditions of approved Corrective Action Plans to address the problems in the wastewater collection system and bring the Beaver Creek WWTP into compliance. The TDEC's Division of Water Pollution Control (DWPC) conducted a compliance evaluation inspection (CEI) of the Beaver Creek WWTP on October 17, 2007. The CEI revealed that the HPUD was in compliance with the terms and conditions of the current Consent Order, including the implementations of management, operations, and maintenance programs and the sewer overflow response plan. The CEI also revealed that the HPUD has implemented a 7-year Master Plan for the wastewater collection and transportation system approved by the DWPC and that the 7-year Master Plan meets the Corrective Action Plan requirements of the Consent Order. The CEI documented that ongoing collection system preventive maintenance and rehabilitation minimizes treatment plant costs and eliminates obvious public health problems caused by overflowing sewers.

D. NEED FOR PROPOSED FACILITIES AND ACTIONS

The Beaver Creek Watershed is experiencing flooding and water pollution problems from increased impervious surfaces in this rapidly urbanizing area. The pipe collecting water runoff

from the Brickey McCloud Elementary School is contributing to these problems and having a negative effect on the watershed. Construction of a new stormwater mitigation area will help eliminate these problems and have a positive effect on the watershed. The Brickey McCloud Elementary School is in need of an outdoor area for education about the environment. Development of a master plan for an outdoor classroom area with improvements made to the existing environment on the school property will have a positive effect on the students and the Beaver Creek Watershed.

The existing Willow Fork Interceptor is in a state of disrepair. The replacement of the Willow Fork Interceptor will restore and improve system capacity and alleviate 2 existing chronic sanitary sewer overflows. Because of the proximity of the interceptor to Willow Fork Creek, additional work will be performed to repair the existing streambanks to improve water quality and restore aquatic habitat using vegetative stabilization methods.

The HPUD is experiencing service problems upstream and downstream of the North Fork Interceptor because of the amount of extraneous water entering the sewer system as I/I. This large quantity of extraneous water combined with the deteriorated condition of the pipelines has resulted in several sanitary sewer overflows within the last few years. Additionally, this interceptor carries flow from over 200,000 LF of upstream sewers serving over 2,400 parcels (approximately 2,255 acres) making it a critical interceptor for existing and future customers. Temporary flow monitoring conducted between July 2004 and June 2005 indicated that the flow monitor installed at Manhole NF16464 experienced surcharge conditions 18 percent of the time. Flow monitoring between July 1, 2007, and June 30, 2008, indicated that the average dry weather flow was 0.169 MGD with a peak flow of 1.671 MGD experienced during a 2.39-inch rainfall event on May 27, 2008. Considerable quantities of I/I enter the sections of the interceptor that will be replaced. The HPUD is experiencing several overflow problems throughout their sanitary sewer collection system and is mandated with a Consent Order from the TDEC to eliminate these overflows.

The Sanitary Sewer Rehabilitation Phase 2 project will reduce the amount of extraneous water (I/I) from entering the sanitary sewer collection system, reclaim lost capacity, and reduce the occurrences of chronic overflows.

Existing and projected facility conditions are shown in the following table:

EXISTING AND PROJECTED FACILITY CONDITIONS

POPULATION	EXISTING (2009)	PROJECTED (2029)
HPUD's Service Area	66,743	88,425
Percent (%) Sewered	70.7%	90.7%

HPUD's WWTP FLOWS (MGD)	EXISTING (2009)	PROJECTED (2029)
Residential/Commercial	2.75	4.54
Industrial	0.71	1.18
Infiltration and Inflow (I/I)	4.45	4.45
TOTAL	7.91	10.17

The HPUD has implemented a 7-year Master Plan for the wastewater collection and transportation system that has been approved by the DWPC. Ongoing collection system preventive maintenance and rehabilitation minimizes treatment plant costs and eliminates public health problems caused by overflowing sewers.

E. **ALTERNATIVES**

Several alternatives, including a "No-action" alternative, were evaluated for the Brickey McCloud Elementary School Outdoor Classroom & Stormwater Mitigation Area project, the Willow Fork Interceptor Replacement project, the North Fork Interceptor Replacements project, and the Sanitary Sewer Rehabilitation Phase 2 project. A summary discussion of the evaluation of each alternative for the four previously identified projects and the selection of the recommended plan follows for each project:

NO ACTION

The "No-action" approach was not a viable alternative. No-action at the Brickey McCloud Elementary School would result in continued pollutant runoff to Beaver Creek and continued erosion of downstream areas from water flowing from a drainage pipe from school property. No-action for the Willow Fork Interceptor Improvements, North Fork Interceptor Replacement, and Sanitary Sewer Rehabilitation Phase 2 projects is not acceptable because the Consent Order issued by the TDEC directs the HPUD to follow a 7-year Master Plan to address the problems in the wastewater collection system. No-action for the Willow Fork Interceptor Improvements project will also allow the advancement of streambank erosion. Actions must be taken to protect the environment and public health. Therefore, this alternative was rejected.

ALTERNATIVES FOR THE BRICKEY McCLOUD ELEMENTARY SCHOOL OUTDOOR CLASSROOM & STORMWATER MITIGATION AREA PROJECT

Detention Basin

This alternative consists of constructing a large traditional detention basin at the pipe outlet structure with concrete and steel outlet structures directing the overflow to Beaver Creek. This alternative would not provide any filtration. Pollutants resulting from the runoff from impervious parking areas would continue to degrade water quality in the watershed. Therefore, this alternative was not the most cost-effective and was rejected.

Stormwater Mitigation Area and Detention Basin

This alternative consists of constructing manmade wetlands and dispersing stormwater flows through a traditional detention pond with concrete and steel outlet structures directing the overflow to Beaver Creek. The manmade wetlands would act as a filtration device and in combination with the detention pond decrease stormwater velocities to Beaver Creek. This alternative was not the most cost-effective and was rejected.

Stormwater Mitigation Area and Outdoor Classroom Master Plan

This alternative consists of constructing a new stormwater mitigation area to treat stormwater through a combination of sedimentation and filtration, decreasing stormwater velocities to Beaver Creek, and providing an outdoor classroom to educate future generations about the benefits of protecting the watershed. This alternative includes new manmade wetlands and disperses stormwater flows from the existing outlet structure at the Brickey McCloud Elementary School site. This alternative was the most cost-effective and was selected.

ALTERNATIVES FOR THE WILLOW FORK INTERCEPTOR REPLACEMENT PROJECT

Re-lay a New 12-inch Diameter Gravity Sewer in Existing Trench along Willow Fork Creek

This alternative consists of constructing a new 12-inch diameter gravity sewer in the existing trench along Willow Fork Creek. Re-laying a new line in the existing trench would not alleviate chronic overflows because the line is shallow and does not have sufficient grade in many places to carry the flows it now experiences. The existing alignment has several creek crossings. Therefore, this alternative was not the most cost-effective and was rejected.

Re-lay a New 12-inch Diameter Gravity Sewer in Existing Trench at Greater Depths along Willow Fork Creek

This alternative consists of constructing a new 12-inch diameter gravity sewer in the existing alignment and a deeper trench along Willow Fork Creek. The additional depth may eliminate some of the chronic overflow problems. The existing alignment has several creek crossings. Therefore, this alternative was not the most cost-effective and was rejected.

Construct a New 12-inch Gravity Sewer Main in a new location along Willow Fork Creek

This alternative consists of constructing a new 12-inch diameter gravity sewer along Willow Fork Creek in a new and deeper alignment. This alternative would allow increased depths and

grades in improve capacity and decrease overflows. The new alignment would also have fewer creek crossings. The Willow Fork Interceptor would also include repairs the existing creek banks to improve water quality and restore aquatic habitat using vegetative stabilization methods. This alternative was the most cost-effective and was selected.

ALTERNATIVES FOR THE NORTH FORK INTERCEPTOR REPLACEMENTS PROJECT

Open-cut Replacement of the Entire Interceptor along North Fork Creek

This alternative consists of constructing a new interceptor, 9,800 LF in length, of new 10-inch and 24-inch diameter ductile iron pipe (DIP) and polyvinyl chloride pipe (PVC) from the tie-in at the main 24-inch diameter interceptor along Beaver Creek to a point northeast of Halls High School. This alternative would include the replacement of approximately 2,300 LF of ancillary pipelines tied into the interceptor and 51 manholes that would have to be replaced. Landscaping restoration costs would be expensive because a portion of the project area is located between a residential area and Halls High School. Therefore, this alternative was not the most cost-effective and was rejected.

Trenchless Only Rehabilitation of the Entire Interceptor along North Fork Creek

This alternative consists of utilizing only trenchless rehabilitation methods such as pipe-bursting or cured-in-place pipe rehabilitation along the entire 9,800 LF of the interceptor. Trenchless rehabilitation methods are best utilized for the rehabilitation of sewer lines where open-cut rehabilitation cannot be cost-effectively performed. This alternative was not the most cost-effective and was rejected.

Utilization of a Combination of Open-cut and Trenchless Rehabilitation Methods

This alternative consists of a combination of rehabilitation methods. This alternative would include rehabilitating approximately 7,120 LF of the interceptor by the open-cut method, rehabilitating and upsizing approximately 2,680 LF of the interceptor by pipe-bursting, rehabilitating approximately 2,300 LF of ancillary connections by cured-in-place method, the replacement of 30 manholes, and the rehabilitation of 21 manholes. This alternative was the most cost-effective and was selected.

ALTERNATIVES FOR THE SANITARY SEWER REHABILITATION PHASE 2 PROJECT

Open-cut and Replace Sewer Lines in High Priority Areas

This alternative consists of open-cutting and replacing all sewer lines in need of repair in the high priority areas of the HPUD. Digging up all the lines would require the removal of many trees and shrubs, cause disturbances through easements, and cause the closing of several roads for extended periods. Therefore, this alternative was not the most cost-effective and was rejected.

Abandon Existing Lines in High Priority Areas and Install New Lines

This alternative consists of abandoning old defective sewer lines and installing new lines in a different location to serve the high priority areas. Installing new lines would include acquiring

additional easements and cause the closing of several roads for extended periods. Therefore, this alternative was not the most cost-effective and was rejected.

Rehabilitate Pipes, New Manholes, Manhole Rehabilitation, and Laterals in High Priority Areas Using a Blend of Cured-In-Place Pipe (CIPP), Pipe Bursting, and Open-cut Point Repairs.

This alternative consists of evaluating the rehabilitation of existing sewer lines, manholes, and service laterals by CIPP, pipe bursting, and open-cut methods. This alternative allows for most of the sewer lines to be repaired with little impact on the environment and the community. This alternative was the most cost-effective and was selected.

F. ENVIRONMENTAL CONSEQUENCES; MITIGATIVE MEASURES

The environmental benefits of the Brickey McCloud Elementary School Outdoor Classroom & Stormwater Mitigation Area project include the elimination of strormwater run-off from an impervious pavement and the reduction of water pollution problems in the Beaver Creek Watershed. This project will also provide an outdoor area for education about the environment. The environmental benefits of the Willow Fork Interceptor Replacement, North Fork Interceptor Replacements, and Sanitary Sewer Rehabilitation Phase 2 projects will be the reduction of chronic sanitary sewer overflows. These projects will allow sewage to be transported to the WWTP rather than becoming a public health hazard. The environmental benefits of the Willow Fork Interceptor Replacement will also include repairs the existing creek banks to improve water quality and restore aquatic habitat using vegetative stabilization methods.

During the construction phase, short-term environmental impacts due to noise, dust, mud, disruption of traffic, runoff of silt with rainfall, etc., are unavoidable. Minimization of these impacts will be required; however, many of these minimization measures will be temporary and only necessary during construction. Using the following measures to prevent erosion will minimize impacts on the environment:

1. Specifications will include temporary and permanent measures to be used for controlling erosion and sediment.
2. Soil or landscaping maintenance procedures will be included in the specifications.
3. The contractor will develop an Erosion Control Plan. It will contain a construction schedule for each temporary and permanent measure controlling erosion and sediment. It will include the location, type, and purpose for each measure and the times when temporary measures will be removed or replaced.

These measures, along with requiring the contractor to return the construction site to as-good-as or better-than its original condition, will prevent any adverse impacts due to erosion.

The state's Historic Preservation Officer has reviewed the project and has determined that the project will not impact known significant cultural resources.

G. PUBLIC PARTICIPATION; SOURCES CONSULTED

A Public Meeting was held on May 14, 2009, at 6:30 p.m., local time. The selected plan for the Brickey McCloud Elementary School Outdoor Classroom & Stormwater Mitigation Area, Willow Fork Interceptor Replacement, North Fork Interceptor Replacements, and Sanitary Sewer Rehabilitation Phase 2 projects and user charges were described to the public, and their input was received. This agency is not aware of any unresolved public objections that may have been voiced before or after the public meeting regarding this project.

The annual median household income for the HPUD is $45,753. The existing user charges are projected to be sufficient to repay the SRF loan. Therefore, no incremental increase in user charges will be required.

Sources consulted about this project for information or concurrence were:

1. Tennessee Department of Agriculture
2. Tennessee Department of Economic and Community Development (ECD)
3. TDEC, Division of Air Pollution Control (DAPC)
4. Tennessee Department of Transportation (TDOT)
5. TDEC, Division of Groundwater Protection (DGWP)
6. Tennessee Historical Commission
7. TDEC, Division of Archaeology (DA)
8. TDEC, Division of Natural Areas (DNA)
9. TDEC, Division of Solid Waste Management (DSWM)
10. TDEC, DWPC
11. TDEC, Division of Water Supply (DWS)
12. Tennessee Wildlife Resources Agency (TWRA)
13. USACE
14. USF&W
15. Hallsdale-Powell Utility District
16. Knox County
17. Union County
18. Jordan, Jones & Goulding, Inc.

H. SPECIAL CONDITIONS

The State Revolving Fund loan agreement will have the following special condition:

> The HPUD shall obtain applicable Section 10/404 Permits from the USACE to meet the requirements of wetlands protection and stream-crossing statutes prior to the approval of plans and specifications. A letter from the Corps stating that the permits are not needed will obviate this requirement.